

## Vanguard 350-HMD 355

### 350 mW of Quasi-CW Output at 355 nm— all solid state

The Vanguard is an advanced diode pumped solid-state laser that has been specifically designed to produce ultra-low noise, quasi-cw ultraviolet output. It delivers exceptional TEM<sub>00</sub> mode quality, outstanding long-term stability, and long lifetime. This rugged OEM laser uses cutting edge mode-locking technology to deliver 350 mW of quasi-cw, UV output at 355 nm.

With an 80 MHz pulse repetition rate, this quasi-cw, air-cooled laser offers a superior solid-state alternative to replace power hungry cw ion lasers in number of OEM applications. Delivering ultra-low noise, near diffraction limited TEM<sub>00</sub> output in a rugged industrial platform, the Vanguard is intended for both commercial and research applications.

A single ProLite™ series diode module pumps the laser head. As with all diode pumped solid-state lasers produced by Spectra-Physics, the diodes are located remotely in the power supply. This makes replacement of the single diode module a simple task requiring no optical alignment of the laser head.

The Vanguard brings solid-state reliability and low cost of ownership to cw applications currently using water-cooled ultraviolet ion lasers.

#### **The Vanguard UV Advantage.**

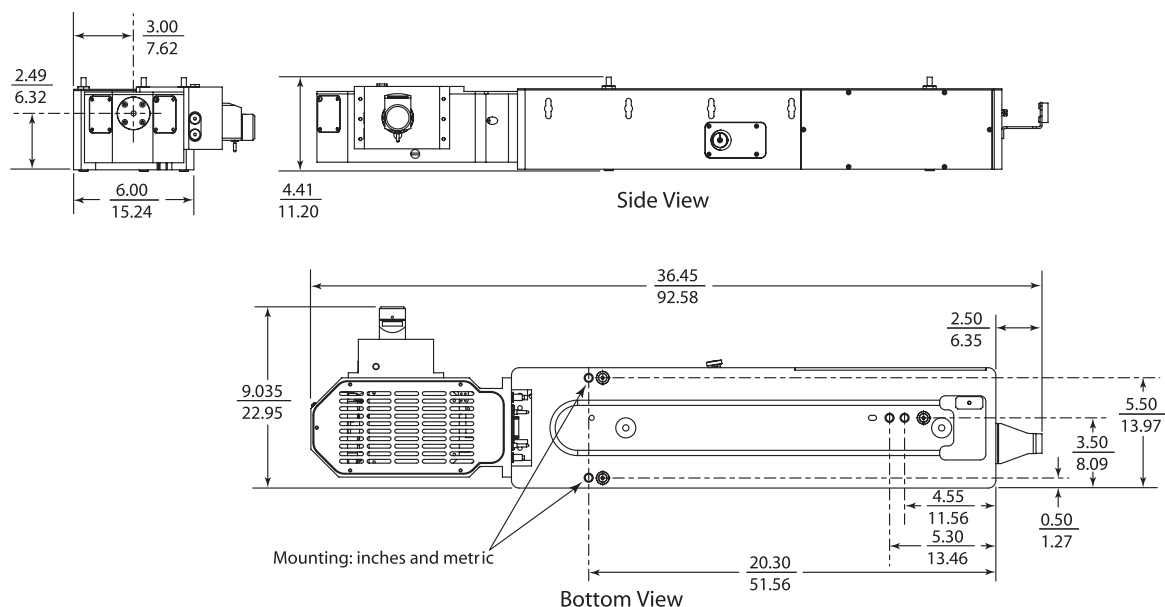
- High power, quasi-cw 355 nm output
- Outstanding power stability
- Ultra-low noise
- Near diffraction limited TEM<sub>00</sub> output
- Hands off performance with computer control
- All solid state
- Air cooled—no external cooling
- Rugged industrial platform
- ProLite™ series diodes
- Low cost of ownership

# Vanguard 350-HMD 355 Specifications

<b>General Characteristics<sup>1</sup></b>	Wavelength	355 nm
	Power	350 mW
	Repetition Rate	80 MHz
	Pulsewidth <sup>2</sup>	12 ps
<b>Beam Characteristics</b>	Mode	TEM <sub>00</sub>
	M <sup>2</sup>	< 1.3
	Far Field Divergence, full angle	< 1 mrad
	Beam Diameter at 1/e <sup>2</sup>	1.0 mm nominal
	Pointing Stability	< 25 $\mu$ rad / ° C
	Beam Ellipticity, far field	< 1.2:1
	Average Power Stability <sup>3</sup>	< 2 %
	Amplitude Noise	< 1% rms, 10 Hz to 2 MHz
<b>Operating Conditions</b>	Polarization ratio	100:1 vertical
	Cold turn-on time (A/C off to full power)	30 min
	Cold turn-on time (A/C off to full specs.)	1 hr. typical
	Temperature Range	22 – 25 +/- 2° C
<b>Utilities</b>	AC Power Input	100-240 VAC +/- 10%, 50-60 Hz
	Power Consumption	<1000 W (500 W typical)
	Cooling Air Flow Requirements	300 cfm

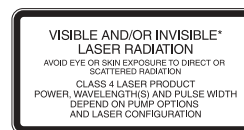
## Notes:

1. Due to our continuous product improvement, all specifications are subject to change without notice
2. Interpolated from measurements of the fundamental 1064 nm pulse. A sech<sup>2</sup> (0.65 deconvolution factor) shape is used to determine the 1064 nm pulse width as measured with Spectra-Physics model 409 autocorrelator.
3. Percentage power drift in any 2-hour period with less than  $\pm 2^\circ$  C temperature change after a 1-hour warm-up.



**Spectra-Physics**  
Lasers & Photonics

Dimensions  $\frac{\text{inches}}{\text{cm}}$



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